

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please amend the claims as follows:

Claims 1-54 (cancelled)

55. (Previously Presented) A polyethylene composition comprising a low-molecular-weight (LMW) ethylene homopolymer component and a high-molecular-weight (HMW) ethylene interpolymer component, and wherein the LMW component has a molecular weight distribution, MWD^L , of less than about 8, and

wherein the HMW component has the following properties: a molecular weight distribution, MWD^H , less than about 5, a substantially uniform comonomer distribution and a melt index, I_2 , less than, or equal to, 0.1 g/10 min, as determined in accordance with ASTM D-1238 (Condition 2.16 kg/190°C); or

wherein the HMW component has a reverse comonomer distribution.

56. (Previously Presented) The polyethylene composition of claim 55, wherein the polyethylene composition is characterized as having a bimodal molecular weight distribution, and a ductile-brittle transition temperature, T_{db} , of less than -20°C.

57. (Previously Presented) The polyethylene composition of claim 55, wherein the LMW component has a density of greater than 0.940 g/cm³.

58. (Previously Presented) The polyethylene composition of claim 55, wherein the LMW component has an I_2 value, ranging from about 30 to about 1000 g/10 minutes, as determined in accordance with ASTM D-1238 (Condition 2.16 kg/190°C).

59. (Previously Presented) The polyethylene composition of claim 55, wherein the HMW component has a density ranging from about 0.905 to about 0.955 g/cm³.

60. (Previously Presented) The polyethylene composition of claim 55, wherein the HMW component has an $I_{21.6}$ value, ranging from about 0.1 to about 1.0, as determined in accordance with ASTM D-1238 (Condition 21.6kg/190°C).

61. (Previously Presented) The composition of claim 55, wherein the HMW is characterized by a unimodal molecular weight distribution, MWD^H of about 4.5 or less.

62. (Previously Presented) The composition of claim 61, wherein M_w^H/M_w^L is about 1.3 or higher, and wherein M_w^H is the weight average molecular weight of the high molecular weight component, and M_w^L is the weight average molecular weight of the low molecular weight component.

63. (Previously Presented) The composition of claim 55, wherein MWD^L ranges from about 2 to about 5.

64. (Previously Presented) The composition of claim 61, wherein MWD^H ranges from about 1.5 to about 4.

65. (Previously Presented) The polyethylene composition of claim 56, wherein the polyethylene composition is characterized by a molecular weight distribution (MWD), as defined by the ratio of M_w/M_n , of about 30 or less.

66. (Previously Presented) The composition of claim 65, wherein the HMW component has a reverse comonomer distribution, characterized as the molar comonomer content of interpolymer fractions, having a M_w greater than, or equal to, 300,000 g/mole, being at least 25 percent higher, than the molar comonomer content of interpolymer fractions, having a M_w of less than, or equal to, 100,000 g/mole.

67. (Previously Presented) The composition of claim 55, wherein the T_{db} ranges from -25°C to about -50°C .

68. (Previously Presented) The composition of claim 55, wherein the composition is characterized as having an $I_{21.6}/I_5$ ratio of less than, or equal to, about 30, as determined in accordance with ASTM D-1238 (Condition 21.6 kg/190°C and Condition 5 kg/190°C).

69. (Previously Presented) The composition of claim 55, wherein the composition is characterized as having an $I_{21.6}$, ranging from about 3 g/10 min to less than about 50 g/10 min, as determined in accordance with ASTM D-1238 (Condition 21.6 kg/190°C).

70. (Previously Presented) The composition of claim 55, wherein the composition is characterized as having an I_5 , ranging from about 0.05 g/10 min to about 2 g/10 min, as determined in accordance with ASTM D-1238 (Condition 5 kg/190°C).

71. (Previously Presented) The composition of claim 55, wherein the composition is characterized as having a M_{v1}/M_{v2} ratio of less than, or equal to, 0.6, where M_{v1} is the viscosity average molecular weight of the LMW high density component, and M_{v2} is the viscosity average molecular weight of the HMW interpolymer component, as determined using ATREF-DV analysis.

72. (Previously Presented) The composition of claim 55, wherein the composition is manufactured using a catalyst system comprising a metallocene catalyst system and/or a Ziegler-Natta catalyst system.

73. (Previously Presented) The composition of claim 72, wherein the metallocene catalyst system comprises a constrained geometry catalyst.

74. (Previously Presented) The composition of claim 72, wherein the catalyst system comprises an activator, which has been bonded or fixed to a support, prior to the addition of the metallocene catalyst.

75. (Previously Presented) The composition of claim 74, wherein the activator is a boron-containing compound or an alumoxane.

76. (Previously Presented) The composition of claim 66, wherein the reverse comonomer distribution is characterized by a comonomer distribution gradient in the range from about 0.0001 to about 0.1.

77. (Previously Presented) The composition of claim 66, wherein the reverse comonomer distribution is characterized by a comonomer distribution gradient in the range from about 0.001 to about 0.02.

78. (Previously Presented) The composition of claim 55, wherein the M_w/M_n of the composition is between about 5 and about 20.

79. (Previously Presented) An article of manufacture comprising at least one component formed from the composition claim 55.

80. (Previously Presented) The article of claim 79, wherein the article is a gas pipe or a water pipe.

81. (Canceled)

82. (Canceled)

83. (Canceled)

84. (Currently Amended) A polyethylene composition comprising a low-molecular-weight (LMW) ethylene homopolymer component, and a high-molecular-weight (HMW) ethylene interpolymer component, and wherein the LMW component is characterized as having a molecular weight distribution, MWD^L , of less than about 8, and

wherein the LMW component is prepared from a constrained geometry catalyst, and has a melt index, I_2 , less than, or equal to, 2000 g/10 min, as determined in accordance with ASTM D-1238 (Condition 2.16 kg/190°C).

85. (Previously Presented) A polyethylene composition comprising a low-molecular-weight (LMW) ethylene homopolymer component and a high-molecular-weight (HMW) ethylene interpolymer component, and wherein the LMW component has a molecular weight distribution, MWD^L , of less than about 8, and wherein the HMW component has a reverse comonomer distribution.

86. (Previously Presented) A polyethylene composition, comprising a low-molecular-weight (LMW) ethylene homopolymer component and a high-molecular-weight (HMW) ethylene interpolymer component, and wherein the LMW component has a molecular weight distribution, MWD^L , of less than about 8, and a melt index, I_2 , from about 30 g/10 min to about 2000 g/10 min, as determined in accordance with ASTM D-1238 (Condition 2.16 kg/190°C); and

wherein the HMW component has a molecular weight distribution, MWD^H , less than about 5 and a substantially uniform comonomer distribution.

87. (Previously Presented) A polyethylene composition comprising a low-molecular-weight (LMW) ethylene homopolymer component and a high-molecular-weight (HMW) ethylene interpolymer component, and wherein the LMW component has a molecular weight distribution, MWD^L , of less than about 8, and wherein the HMW

component has a molecular weight distribution, MWD^H , less than about 5, and has a substantially uniform comonomer distribution, and

wherein the composition has a density greater than, or equal to, 0.94 g/cm^3 .

88. (Previously Presented) An article of manufacture, comprising at least one component formed from the composition claim 87.

89. (Previously Presented) The article of claim 88, wherein the article is a gas pipe or a water pipe.

90. (Previously Presented) A method of increasing the service life of a pipe line for gas or water, said method comprising building said line comprising at least one pipe formed from the composition of claim 55.

91. (Canceled)